ILLUSION OF CONTROL, BETTER-THAN-AVERAGE, MISCALIBRATION, DESIRABILITY BIAS AND UNREALISTIC OPTIMISM AGAINST OVERCONFIDENCE BEHAVIOR

(*Case Studies on Semarang Investors in Financial Decision Making*)

UNDERGRADUATE THESIS

Submitted as partial requirement to complete the
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Submitted by:

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ORIGINALITY STATEMENT

I am who undersigned here, Carissa Kusuma Widyadhana, claimed that this undergraduate thesis titled **"Illusion of Control, Better-Than-Average, Miscalibration, Desirability Bias, and Unrealistic Optimism Against Overconfidence Behavior (Case Studies on Semarang Investors in Financial Decision Making)"** is my own writing. Hereby I declare the truth that in this undergraduate thesis, there is no writings which I took copy or imitate as a whole or a part in a form of sentence or symbols which represent another writer's idea that I admitted as my own, and/or there is no part or a whole writing which I copied or took from other's without giving consent to its owner.

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MOTTO AND DEDICATION

Expect nothing;

Appreciate everything

Learn from every mistake.

Because every experience, particularly your mistake;

are there to teach you and force you into being more of who you are

Success isn’t about how much money you make;

it’s about the difference you make in people’s life

For Indeed, with Hardship [will be] ease,

Indeed with Hardship [will be] ease

Ash – Sharh [The Relief] 5-6

Stay strong for yourself

This undergraduate thesis dedicated to

Papa, (Alm.) Mama, Bunda, Kak Nia, Mas Satrio, Mbak Ganis, and Alief

ABSTRACT

Overconfidence in investment was a bias that affected investor to be too confident when taking financial decision. Sometimes investors are very confidence getting some information and rejecting other contradictive information that in fact is important to be considered before making any financial decision. Physiologists found that humans had a tendency to rely on to unreasonable believes when making decision. Overconfidence itself affected by cognitive biases such as an illusion of control, better-than-average, miscalibration, desirability bias and unrealistic optimism. This study will take a case study on the investor’s financial decision.

Research population used was investors Semarang. By calculation of sample from Hair et al, this reasearch used 150 investors as respondents. This research used quantitative method by distributing questionnaires. Questionnaire consisted of 30 questions representing the illusion of control, better-than-average, miscalibration, desirability bias and unrealistic optimism as variables in the research.

The results shown that illusion of control, better-than-average, miscalibration and desirability bias has a positive and significant effect to the overconfidence related in investor’s financial decisions. Otherwise, unrealistic optimism indicates negative and significant effect on overconfidence behavior.

Keywords: ***Behavioral Finance, Overconfidence, Illusion of Control, Better-Than-Average, Miscalibration, Desirability Bias, Unrealistic Optimism, Investor, Multiple Linear Regression Analysis***

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Semarang, September 27th, 2018

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CHAPTER I

INTRODUCTION

1.1 Background Problems

Rational choice theory is an economic theory explaining that individuals always make prudent and logical decisions. Scott (2000) assumed that people are motivated by money and by possibility of making a profit with rational calculation, act rationally when choosing, and aim to increase either pleasure or profit. In this case, Levin & Milgrom (2004) defined rational choice theory as an optimization-based approach on self-interest.

Theories from Tittenbrun and Goodwin supporting rational choice theory were homo economicus. In economics, *homo economicus*, or economic people, is the concept in economic theories portraying humans as consistently rational and narrowly self-interested agents (Tittenbrun, 2013). Economic man is always able to calculate and find optimal point in financial economic problems taking place (Goodwin et al., 2014). For example, firms maximize their profits from producing and selling goods and services; while, households maximize their utility or satisfaction from consuming goods and services from firms. Therefore, in general, *homo economicus* provided maximum utility or profit for each decision-making.

However, in reality, rational choice theory and homo economicus were irrelevant. Neither academicians nor financial experts found out that there were numerous facts that were not completely aligned and often contradicted with rational choice theory and homo economicus. There was a gap between academician's opinions doing a research based on theoretical concepts and theories and experts directly engaging it on the field.

For experts, academicians had a narrow point viewing capital market. Academicians believed capital market was collection of statistical cases to be analyzed using mathematics-statistics formula; yet, disregarded that within the capital market there were other parties behaving dynamically, as humanities variable should also be considered. As a result, most of the academicians' research results were not compatible and hard to be applied.

Meanwhile, recent economic theories have explored views of human nature and financial decision-making that go beyond simple assumptions that, in fact, they have been challenged by a strong alternative theory called behavioral finance. Behavioral finance has been developed to explain investor behavior or market anomalies when rational models provide no sufficient explanations (Muradoglu & Harvey, 2012). Studies in behavioral finance suggested that more sophisticated model of human motivations is required to explain behaviors that can lead to stock market swings, the ways that people react to good and bad fortune, and why people often seem to act against their own self-interest (Goodwin et al., 2014).

Finance was incorporated with psychology and sociology to be a behavioral finance theory. Behavioral finance is a nowadays approach of conventional economic and financial theory and combines it with physiological theory in a scope of making financial decision **(**Glaser et al., 2005**)**. Essentially, behavioral finance attempts to explain the what, why, and how of finance and investing, from a human perspective.

Behavioral finance powers huge influences in investor's decisions on market trade especially those related to buying and selling decision. The decision of an investor was mostly based on a set of calculation done before, but unintentionally it was influenced by cognitive behavior from persons. Ritter (2003) identified cognitive heuristic could lead investors made investment decisions become irrational. He found that during 1987-1989 and 1999, investors in Japan, Taiwan, and United State of America, Hong Kong, and Europe had lost enormous amounts of money while trading because of irrational behavior and stocks became overvalued. Durand et al. (2013) doing observations and analyzes of market trade, implied that people especially investor take a decision for their own money based on motivations and goals. Those motivation and goals came from cognitive heuristic.

Gupta, Preetibedi, & Mlakra (2014) explained the reasons investors behave specifically unique while investing in financial market. According to Gupta, Preetibedi, & Mlakra (2014), the most common cognitive heuristics or patterns that can explain reasons for having behavioral finance leading to irrational behavior are, (1) Representativeness is where people making a shortcuts judgments about the probability of an event under uncertainty. Representativeness sometimes is useful as is it to make decision-making easier, but sometimes it might cause to draw a wrong conclusion. (2) Anchoring is a tendency of people to rely too heavily on the first piece of information that offered or irrelevant information as a references when making decision. (3) Herding is a situation in making decision of an investor by reacting to information from other investors rather than from behavior of the market. In other word, people will be following what others do rather than using their own information. (4) Overconfidence is defined as people's tendency to overestimate their skills or abilities or knowledge to be too confident. In essence, they have an inflated view of their abilities. (5) Loss Aversion refers to people strongly prefer avoiding losses than acquiring gains. (6) Mental accounting is concept of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities. In same context, people separate their money into separate account based on criteria like source of the money and purpose of each account. (7) Regret Aversion or anticipated regret is people might anticipate regret if the outcome is not as expected or desired. This anticipation is as a consideration in making decision to reduce risk.

One of reasoning patterns that have huge part of behavioral finance pillar was overconfidence. Pompian (2006) defined overconfidence in psychology as people who tend to have unwarranted confidence in their decision-making. Human beings have a tendency to overestimate their own skills and predictions for success. Giardini et al. (2008) mentioned about people's tendency to have 'irrational' believes that their skills, knowledge, and abilities are considered better that that of others'. Meanwhile, Fast et al. (2012) stated that people tend to see themselves, world, and future to be more positives instead of reality. In short, overconfidence was a bias related to the degree to which someone understand their own abilities and limits of their knowledge, which will be used later in making financial decision.

Overconfidence has direct applications in investment, which can be complex and involve prediction of the future. Ricciardi & Simon (2000) defined overconfidence as an overestimation of the probabilities for a set of events. Overconfident investors might overestimate their ability as irrational behavior and irrational judgment to identify the winning investments. This reaction possibly was affected by some psychological factors such as emotion and subjectivity. Trinugroho & Sembel (2011) agreed that when people making decision, they unconsciously gives excessive weight to the assessment of knowledge and accuracy of information. Overconfidence behavior causes investor to seek only evidence that confirming their views and ignore contradicting evidence. People ignore public information while investing, because people think their knowledge and information are already enough. Public information including takeover announcements, shareholder details, periodic reports, asset acquisitions and disposals, dividend announcements, progress reports, company administrations, and others. Limited investor attention has also recently been offered as an explanation for various empirical patterns in trading and prices (Daniel & Hirshleifer, 2015). That is why investors who neglect important information would nevertheless trade aggressively, so that such neglect can influence price.

Prior experiment by Barber & Odean (2001) who tested natural variable of human being as a proxy for overconfidence – gender identified that men are more prone to overconfidence than women do, men tend to trade more than women do, and thus they reduce their return more than women. Based on Ackert & Deaves (2011) research' overconfidence was affected by;

1. Miscalibration, the tendency for people to overestimate the precision of their knowledge, they do believe they are more comfortable with “what they want” instead of “what they need” information.
2. Better-Than-Average, this factor can make someone thinks that they are better than other people are, in facts their skills, abilities, and intelligence are the same, if not below other people. Ackert & Deaves (2011) asked people to rate themselves relatively to average on certain positive personal attributes such as athletic skill or driving ability, and, consistent with a better-than-average effect, many rate themselves as above average. However, only less than 50% of the people in any pool can truly be superior. They also surveyed a sample of students; they found 82% of student rated themselves to top 30% who is capable of driving safety.
3. Illusion of Control, they think they have more control or at least give an effect over events than objectively can be true. For example, one sees dice players acting as if they could control the outcome of the dice roll.
4. Unrealistic Optimism (Excessive Optimism) is present when people make a prediction about future and gives assign probabilities to favorable or unfavorable outcomes that are just too high or low given historical experience or reasoned analysis. Ackert & Deaves (2011) surveyed on test day students expect to receive high score because they already studied on the night before and it turned out they actually do receive below expectation score. Straight A-student also tends to overestimate the number of job offers that they will receive because they have good marks.

Furthermore, Kartini & Nugraha (2015) mentioned about negative effect of illusion of control and emotion to investment decision; although, it has positive relationship to overconfidence. Meanwhile, Khan, Tan, & Chong (2016) found that more than average have a positive effect to overconfidence, but illusion of control and misscalibration does not affect overconfidence to investor in Malaysia.

Other prior experiment finding by Kurniawan & Arfianto (2017) showed that overconfidence has a prior bias, illusion of control, better than average, miscallibration, and desirability. Illusion of Control is chosen in order to explain a deep conviction about an involvement in something to predicting a satisfaction outcome. Better-Than-Average is used to determine ability and belief of individuals in assessing quality of themselves, which are better than others. Miscalibration is used to analyze ability of individuals to receive accuracy information. Desirability will prove the existence of a desire in oneself that also affect an action that people will take. Kurniawan & Arfianto (2017) also identified that all of biases has a positive effect on overconfidence, while miscalibration has not. The existence of these elements needed to be further tested especially in its relation to overconfidence behavior.

Overconfidence in abilities might, in some ways, be a healthy attribute, as it drove good feeling and created a positive framework to get a life experiences. Unfortunately, being overconfidence on investment skills could lead to investment blunders, such as trading too much, buying risky investment, concentrating assets, and failing to diversify. Hence, not many experiments analyzed it, especially, in

Indonesian market trade. Therefore, Kurniawan & Arfianto (2017) last experiment with investors as research object was essentially important to be deeply explored.

In further conducting Kurniawan & Arfianto (2017) last experiment, one new variable as the cause of overconfidence was added. The variable explored was taken from the finding of the last research of Ackert & Deaves (2011), which was unrealistic optimism. This variable proved that humans tend to predict their personal future either positive or negative based on their experience and analysis.

This research takes place in Semarang. Semarang, as capital city of Central Java, has a rapid development of its economy, infrastructure and tourism. This is very influential in the development of investment in Semarang. Head of representative office of Indonesia Stock Exchange (IDX) in Semarang, Mr Fanny Rifki El Fuad, declare that on 2018 the number of investors that already recorded in Semarang City until June 2018 is 18,550 investors. This increased by 20 percent compared to 2017.

Considerations described lead to a proposal to conduct a research about overconfidence as one of the factors in behavior finance that causes various financial decision problems. The research entitled "**Illusion of Control, Better-Than Average, Miscalibration, Desirability Bias, and Unrealistic Optimism against Overconfidence Behavior (Case Studies on Semarang Investors in Financial Decision Making)**" explain the effect of variables based psychological aspects of individuals who unintentionally and indirectly affect investor’s decisions in terms of financial decisions.

1.2 Problems

Based on the background elaborated, overconfidence is one of the most interesting factors need to be discussed by exposing financial behavior of each individual in terms of financial decisions. The lack of the previous research analyzing factors of overconfidence needs to be further explored by conducting in depth discussion and refining the existing results. To clarify the aforementioned background, definition of overconfidence is that a person's belief in knowledge and information he has by assuming that he himself is above the average of others and leads to make miss prediction. Nofsinger (2001) supports it by explaining that overconfidence is a bias that makes individual becomes overestimate to knowledge that he has and underestimated against other predictions.

Furthermore, financial decisions are the result of overconfidence behavior. Financial management is a crucial matter to be understood, as it is a specification of a very important financial management that has to be managed properly. Financial decisions might take the form of such determining investment, saving, choosing a job, spending credit, and others. Therefore, it is important to start thinking about short-term and long-term benefits of any financial decisions taken. Nevertheless, in reality not everyone is able to manage his/her financial decisions properly and correctly, which is caused by one of the psychological bias called overconfidence.

Overconfidence has some advantages and disadvantages for financial decision. One of the advantages is people with overconfidence can quickly heals the disappointment from unexpected condition in market. Otherwise, overconfidence can spread sustainable bias related financial decisions (Byrne & Utkus, 2013). Another expert, Pompian (2006) identifies mistakes usually occur resulted from overconfidence behavior in relation to investments in the financial markets; as follow:

1. Overconfidence causes investors to overestimate the ability to evaluate an identify company as potential investment. Most overconfidence investor claimed they have above-average capability in selecting stock. They also believe that they can pick mutual fund that will deliver superior future performance.
2. Overconfidence can lead investors to make excessive trading as an effect of a belief that they have special knowledge; yet, they do not actually have.
3. Overconfidence can lead investors to underestimate on the risk and tend to ignore the risk. Overconfidence investors have a tendency to underestimate downside risks. They are also super confidence with their prediction that they do not fully consider the possibility of losses in their portfolio.
4. Overconfidence causes a tendency of investors’ investment portfolio to be under-diversified. Many overconfidence investors maintain a non-diversified portfolio because they do not believe that the securities they traditionally like will perform poorly.

This research discusses the causes that encourage someone to be overconfidence in making financial decision. The difference between this study and the previous one is the subjects analyzed and the research object. Many previous studies have discussed and analyzed factors influencing investment decision-making that used overconfidence as one of its variables.

Given the background problems, some research questions the research objectives arise;

1. How does Illusion of Control affect Overconfidence behavior?
2. How does Better-Than-Average affect Overconfidence behavior?
3. How does Miscalibration affect Overconfidence behavior?
4. How does Desirability Bias affect Overconfidence behavior?
5. How does Unrealistic Optimism affect Overconfidence behavior?

1.3 Research Objective

Based on background and formulation of the problems that have been described, the objectives of this study are as follows;

1. To analyze the causal relationship between Illusion of Control and Overconfidence behavior
2. To analyze the casual relationship between Better-Than-Average and Overconfidence behavior
3. To analyze the casual relationship between Miscalibration and Overconfidence behavior
4. To analyze the casual relationship between Desirability Bias and Overconfidence behavior
5. To analyze the casual relationship between Unrealistic Optimism and Overconfidence behavior
6.

1.4 Research Purposes

1.4.1 Academic Uses

The findings of this study are expected to be the source of reference for academics and related parties to education in financial field, especially for economic agents, who take financial decisions to determine the behavior of overconfidence, problems that will be caused and knowing the factors that affecting overconfidence behavior.

1.4.2 Expertise Uses

The findings of this study are expected to contribute to a broader understanding related factors affecting overconfidence behavior in financial decision-making, especially for the parties concerned;

1. For Economic Agents

   Contributing better understand about the importance of knowing and analyzing the factors that cause overconfidence behavior. So then those factors can be managed wisely and can be used as well as possible in the most appropriate financial decision-making.

2. For Investors

   Contributing better understand about the behavior of overconfidence that occurs in the psychological side of a person. So, when investors do trading, this factor will be considered carefully and properly

1.5 Writing System

The writing of this research is arranged in five chapters consisting of; Introduction, Literature Review, Methods, Results and Discussion Analysis, and Conclusion.

CHAPTER I: INTRODUCTION

This chapter describes background of the importance of behavioral finance and discussion about it, describes phenomenon of overconfidence behavior that can affect investor's financial decision making, describes factors that cause overconfidence behavior on economic agents, describes problems, research objectives and research purposes, and writing system.

CHAPTER II: LITERATURE REVIEW

This chapter discusses theoretical basis that support the research as a basic reference of theories and analysis. In this chapter there are definitions and theories about behavioral finance, cognitive bias, overconfidence, factors affecting overconfidence such as illusion of control, better-than-average, miscalibration and desirability bias. In this chapter will also be described prior studies and experiment, showing the theoretical framework and development of hypotheses.

CHAPTER III: METHODS

This chapter show research method that will be used, consist of; research variables and definitions of operational variables, population and sample research, types and sources of data, data collection methods and data analysis methods.

CHAPTER IV: RESULT AND DISCUSSION

This chapter describes in detail the results of the research being done, and provides a clear discussion.

CHAPTER V: CONCLUSION

This chapter describes conclusions of the research being analyzed, and provides criticism and suggestions for improvement in upcoming research based on this research.